UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
CHEMICAL SAFETY AND
POLLUTION PREVENTION

MEMORANDUM:

To: Gene Benbow

From: Jacquelyn Marchese, M.S., Entomologist

Through: Jenn Urbanski, Ph.D., Biologist

Date: 3/9/2015

Subject: PRODUCT PERFORMANCE DATA EVALUATION RECORD

DP barcode: 420516
Decision no.: 497839
Submission no: 961175
Action code: R340
Product Name: Imidacloprid Granular Bait
EPA Reg. No or File Symbol: 73079-14
Formulation Type: Solid bait to be sprinkled or dusted
Ingredients statement from the label with PC codes included:
Imidacloprid 0.5%, **PC:** 129059**, CAS**: 138261-41-3
Application rate(s) of product and each active ingredient (lbs. or gallons/1000 square feet or per acre as appropriate; and g/m^2 or mg/cm^2 as appropriate): *Outdoor perimeter application:* 0.5-1 oz (2-4 tablespoons) per 100 ft^2 (minimum of 0.0025oz of imidacloprid per 100 ft^2). *Turf application:* 4-8 oz per 1000 ft^2 (10-20 lbs per acre) (minimum of 0.002 oz of imidacloprid per 100 ft^2). *Sewer application:* 1 oz per 100 ft^2 (minimum of 0.005oz of imidacloprid per 100 ft^2). *Indoor application*: 0.5 oz per 100 ft^2 (minimum of 0.0025oz of imidacloprid per 100 ft^2).

I. Action Requested. The Risk Manager requests that the submitted studies be reviewed to determine if they support the addition of carpenter ants to the existing label.

II. Background: The registrant submitted an application in November of 2014 requesting the addition of carpenter ants and included supporting studies. The product in question already is labeled for cockroaches, non-public health ants, crickets, mole crickets, silverfish, firebrats, and

earwigs.

III. MRID Summary:

MRID 49520101 Sandidge, J. 2014. Field Efficacy of InVict Xpress Granular Bait and InVict Ant Gel Against Ants.
This study tested the product against Bigheaded Ants (*Pheidole spp.*), Pavement Ants *(Tetramorium caespitum*), and Odorous House Ants (*Tapinoma sessile*). These species are not considered public health pests and therefore do not require data review for a label claim. Although tables 1 and 2 do not explicitly state which species was tested, presumably all species types were considered together (a method that is not appropriate if the test was measuring efficacy against a public health pest). According to these test results, the product appears effective against the three species of ants tested in this study. As the species tested are not considered public health pests, this study will be considered an extraneous submission in the review for carpenter ants efficacy.

MRID 49520102 Spragins, J. 2014. Efficacy of Imidacloprid Granular Bait and Imiacloprid Ant Gel Against Carpenter Ants.
(1) *GLP or non-GLP?* Non-GLP
(2) *State the purpose and briefly summarize the methods and results.* "The purpose of this study was to determine the efficacy of Imidacloprid Granular Bait and Imidacloprid Ant Gel for registration with various pesticide regulator agencies."

METHODS:
Large colonies of carpenter ants (*Camponotus modoc*) were field collected and maintained in a laboratory with honey, a protein source, and water until allocated for testing. Dishes with vented lids containing 100 ants were used for feeding trials. Each dish contained water. Twenty-four hours after the ants were placed in the dish, one of the tested baits were introduced. Imidacloprid Granular Bait was one of 3 products tested and it was supplied at the rate of 1 g per a 1 cm^2 weighing dish. Each bait tested had 5 replicates. Twenty-four hours after the bait was introduced, honey (1 g/dish) was offered as an alternative source of food. An untreated control was given honey for sustenance. Ants were observed for mortality at 6 and 12 hours daily for 10 days.

RESULTS:

Bait	Rep	6 hr	12 hr	24 hr	2 d	3 d	4 d	5 d	6 d	7 d	8 d	9 d	10 d
Imidacloprid Gel (0.03%)	1	17	20	90	95	95	99	99	100	100	100	100	100
	2	18	19	85	95	96	99	99	100	100	100	100	100
	3	8	10	90	96	87	89	90	90	95	96	97	100
	4	14	23	91	92	95	97	97	97	97	97	98	100
	5	11	20	86	90	94	95	95	100	100	100	100	100
	Total	68	92	442	468	467	479	480	487	492	493	495	500
	%	**13.6**	**18.4**	**88.4**	**93.6**	**93.4**	**95.8**	**96.0**	**97.4**	**98.4**	**98.6**	**99.0**	**100**
Imidacloprid Granule(0.5%)	1	0	1	1	79	95	96	96	96	100	100	100	100
	2	2	2	10	90	100	100	100	100	100	100	100	100
	3	0	6	43	100	100	100	100	100	100	100	100	100
	4	1	3	15	95	95	100	100	100	100	100	100	100
	5	2	3	19	91	95	95	98	100	100	100	100	100
	Total	5	15	88	455	485	491	494	496	500	500	500	500
	%	**1.0**	**3.0**	**17.6**	**91.0**	**97.0**	**98.2**	**98.8**	**99.2**	**100**	**100**	**100**	**100**
Maxforce Carpenter Ant Bait Gel	1	0	9	85	100	100	100	100	100	100	100	100	100
	2	1	13	71	100	100	100	100	100	100	100	100	100
	3	0	8	50	99	100	100	100	100	100	100	100	100
	4	0	12	67	100	100	100	100	100	100	100	100	100
	5	2	18	80	100	100	100	100	100	100	100	100	100
	Total	3	60	353	499	500	500	500	500	500	500	500	500
	%	**0.6**	**12.0**	**70.6**	**99.8**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Control	1	0	0	0	0	0	0	0	0	0	0	0	0
	2	0	2	2	2	2	2	2	2	2	2	2	2
	3	2	2	2	2	2	2	2	2	2	2	2	4
	4	0	0	0	0	0	0	0	0	0	0	0	0
	5	0	0	0	0	0	0	0	0	0	0	0	1
	Total	2	4	4	4	4	4	4	4	4	4	4	7
	%	**0.4**	**0.8**	**0.8**	**0.8**	**0.8**	**0.8**	**0.8**	**0.8**	**0.8**	**0.8**	**0.8**	**1.4**

Table 1. Mortality of carpenter ants *(Camponotus modoc)* in bait trials with Imidacloprid Gel and Imidacloprid Granules (Observations: 6 and 12 hrs, for 14 days) (100 ants/dish)

(3) *State conclusions as they relate to study results following your review of the primary effi cacy review and the study materials.* Ninety percent of ants in the Imidacloprid Granular Bait trial were dead 2 days after the bait was introduced. This study was described as a choice test study but it is problematic that the alternative non-bait food was given only 24 hours after the bait was introduced, 48 hours after they were placed in the test container. The bait and the choice food should have been introduced together to truly create a choice test. Further, the bait was not supplied at the label rate for the test. At its lowest, the label rate is 0.4 oz per 100 ft^2 (0.0001g/1 cm^2), though it was delivered at a much higher rate of 1g/ cm^2, for this test. Although 90% efficacy was reached by day 2, two days post bait introduction, additional studies will be needed to fully support a carpenter ant claim on this product.

(4) *State whether this is an acceptable study. If not state why.* This study is a **supplementary**

study. A study that gives carpenter ants a choice in food for the duration of the study and provides the bait at the labeled rate will be needed. It alone will not support carpenter ants.

MRID 49520103 Sandidge, J. 2014. Efficacy Imidacloprid Ant Gel and Imidacloprid Granular Bait in Choice Tests Against Acrobat Ants (*Crematogaster spp.*).
This study did not test any ant species that are considered to be public health pests. Two studies were conducted within this MRID, one tested imidacloprid and borax, while the other tested the product that is subject to this review. The applicable product tested reported 90% mortality after 13 days. This generally is too long for a kills claim and as this study does not test the product's efficacy against carpenter ants it will be considered an extraneous submission for this review.
MRID 49520104 McCoy, T., Spragins, C. 2012. Efficacy of Imidacloprid Roach Gel and Imidacloprid Granular Bait in Choice Tests Against German Roaches.
This study also did not test carpenter ants, but examined German cockroaches instead. Although raw data were not submitted, it appeared that 90% mortality was reached around 72 hours post exposure and by 6 days post exposure, 95% mortality was observed. As the product's label already has a cockroach claim, this study will be considered supplementary for this review.

MRID 49520105 Sandidge, J. 2013. Efficacy of Imidacloprid Granular Bait Against House Crickets.
This is another study submitted that does not examine the product's efficacy against a public health pest. House crickets were exposed to the product in a choice and a no-choice test. In the no-choice test, 91% were knocked down after 12 hours and 100% were knocked down after 15 hours. The numbers decrease in the choice test where 90% knockdown was observed after 24 hours. Although mortality was recorded according to the methods, no data was submitted describing this variable. As the test species was not a public health pest and mortality data were not submitted, this study will be considered an extraneous submission for this review.

IV. RECOMMENDATIONS:

Public health claims that were already approved and on the label may remain (cockroaches). (Note that crickets, mole crickets, silverfish, firebrats, and earwigs are not considered public health pests by the Agency, and also may remain on the label). All proposed claims on carpenter ants are not supported by the submitted reviews and should be removed from all areas of the label. The ant claims that are on the label already may remain, with the caveat that the public health species of ants are not covered. This includes fire, pharaoh, harvester, and carpenter ants. Additional studies that test the label rate, and offer an additional food choice throughout the entire study, will be needed. Further, if the registrant wants a nest or colony claim against carpenter ants, a field test will also be needed.